

Kennedy/Jenks Consultants

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10 July, 1996

Mr. S. Mario Stavale
McDonnell Douglas Realty Company
4060 Lakewood Boulevard, Sixth Floor
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Subject: Conceptual Workscope
Phase II Investigation, Parcel C
McDonnell Douglas Realty Company
Douglas Aircraft Company C-6 Facility
Torrance, California
K/J 954019.01

Dear Mr. Stavale:

Kennedy/Jenks Consultants (Kennedy/Jenks) is pleased to submit this conceptual workscope to McDonnell Douglas Realty Company (MDRC) to perform a preliminary site characterization (Phase II) at the C-6 facility based on the recommendations for further investigation in the Phase I Environmental Site Assessment for Parcel C, dated May 1996.

BACKGROUND

The C-6 facility is currently used as an industrial facility. In a Phase I Environmental Assessment (PESA) dated May 1996, Kennedy/Jenks developed conclusions about potential environmental interests in a portion of the facility labeled in the report as "Parcel C". These conclusions were based on historical documents and interviews provided by Douglas Aircraft Company (DAC) personnel, as well as a walk-through of the facility. In May 1996, Kennedy/Jenks also conducted a Phase II investigation of Parcel A. The conceptual scope of work described herein is modeled after this recently completed Parcel A investigation.

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SCOPE OF WORK

The objective of the recommended testing is to assess the potential for impacted soil at suspected areas identified in the "Parcel C" PESA. Kennedy/Jenks will use hand auger, hollow-stem auger, and direct push sampling techniques to collect samples from selected locations. The areas to be sampled are identified on Figure 1. The estimated number of test locations and sampling analytical program are detailed in Table 1. Based on the recent Phase II investigation of Parcel A, we are currently recommending that direct push borings be advanced to 15 feet below ground surface (bgs) with only the first two samples (5 and 10 feet) below the feature of interest analyzed by the laboratory. In the event that the bottom sample collected shows chemicals of concern at elevated levels, a new test hole will be advanced to 30 feet bgs, to sample at the lower intervals. In areas where a hollow-stem auger is used, the borings will initially be advanced to 25 feet bgs (or below the base of the feature being tested) as this method is more costly than the direct push sampling due to surface coring through concrete, grouting the holes, and soil disposal.

Task 1 - Locate Uncharted Potential Areas of Interest

In review of historical documents during the PESA, several areas of environmental interest were identified on drawings that were not observed during the site walk. Due to structural changes in the various portions of the facility, the exact locations of these previously existing features have been obscured and will need to be approximately charted prior to selecting sampling locations. The uncharted areas of interest include:

- Area 1-J: Six underground storage tanks (USTs), an emissions scrubber and water treatment system that were noted for removal on a 1952 demolition drawing. The location of the tanks is not shown on the drawing.
- Area 3-A: A suspected former maintenance building to the west of Building 3, shown in a 1945 aerial photograph. The approximate footprint of the former building will be estimated from the aerial photograph and facility plans if available.
- Area 15-A: Drain lines leading from a former photo lab in Building 15.

The areas will be charted, if possible, from available drawings, photos, and discussion with facility personnel. If the areas cannot be approximately located, they will be dropped from the sampling program.

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Task 2 - Workplans and Field Preparation

To accomplish the Phase II objectives and document proper protocol for the work, a summary workplan will be prepared prior to initiating field work. The major portion of the workplan will be comprised of identification of sampling locations, sampling methods and the Kennedy/Jenks Standard Operating Guides. The Guides incorporate industry professional standards for routine sampling, and are designed to meet general regulatory agency requirements and result in litigation quality work. The summary workplan will be compiled for use in the field and will include this workscope and summary tables. The summary workplan objectives and sampling program will be reviewed with the field staff at project startup. A site health and safety plan will also be prepared prior to conducting field activities. The site health and safety plan will include a discussion of confined space entry issues that are presented by the need to sample in subsurface concrete vaults. The health and safety plan will be modified from the existing plan prepared for the Parcel A investigation.

Task 3 - Sampling and Analysis

Field activities will be initiated with selection of sampling locations, geophysical screening for underground obstructions, and concrete coring to access subsurface soils.

Sampling will be accomplished using direct-push, hollow-stem auger, and hand-auger methods. The push technology uses a truck-mounted, hydraulically driven sampler or core barrel that allows penetration and drive sampling without the generation of drill cuttings. The method is quick and eliminates the bulk of residuals associated with auger drilling and will be used at as many locations as possible. A limited-access hollow-stem auger drill rig may be used in areas that are not accessible to a standard auger rig and to the direct-push system. Select test holes may be advanced with a hand auger and sampled with a hand operated drive sampler, if the location access or testing depth warrant.

Soil types encountered will be logged using the Unified Soil Classification System (USCS). The soil type of each sample will be recorded on sample collection logs.

The hollow-stem auger holes will be backfilled with cement-bentonite grout and the hand-auger holes will be backfilled with bentonite chips. Cuttings will be drummed and labeled. At each location, the top 6 to 12 inches of the hole will be filled with concrete or asphalt paving to match the surrounding surface.

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Samples will be collected in brass or stainless steel sleeves, as appropriate for the program analytes at each location. Sample volume and packaging requirements will be specified in the workplan tables. Each sample will be labeled, packaged, and analyzed on-site by a mobile laboratory or placed in an ice-cooled insulated container upon collection pending transport to the offsite analytical laboratory. Sample custody will be maintained by the field sampler and documented on chain-of-custody forms. At the end of each field day, samples will be transported to the analytical laboratory by Kennedy/Jenks or laboratory personnel. In some instances, certain samples will be analyzed by the mobile laboratory and transported to the offsite analytical laboratory for further analysis. Samples will be analyzed by the offsite laboratory on a routine two-week turnaround time.

Sample areas are illustrated in Figure 1. The conceptual sampling and analytical program is detailed in Table 1.

Task 4 - Report Preparation

A draft report will be prepared which presents the findings of the investigation. The report will briefly summarize investigation methods and activities, and conclusions based on the data gathered. The report will include maps showing test locations and tables summarizing sample data. Laboratory analytical reports and chain-of-custody records will be appended to the report. A final report will be prepared following review of the draft report by MDRC personnel and discussion of comments with Kennedy/Jenks.

Task 5 - Project Management

Implementation of this project will be under the direct supervision of Mr. Rus Purcell. Mr. Purcell will schedule and direct technical activities, monitor project costs, and communicate important project related information to MDRC personnel. Project management will also include subcontracting and billing activities.

Task 6 - Field Contingency

This task provides for costs associated with additional soil borings, soil sampling, and laboratory analysis that may be deemed necessary based on field results. No additional sampling will take place without verbal approval by MDRC.

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PROJECT SCHEDULE

Kennedy/Jenks is prepared to begin project activities upon receipt of authorization to proceed. Project activities will begin with subcontracting, scheduling, and workplan preparation. It is anticipated that field activities will begin within three weeks of authorization and are expected to be completed within 20 days. Laboratory analysis of samples on a standard turnaround time will take approximately two weeks. A draft report is expected to be available for review within three weeks of receipt of final laboratory data.

Kennedy/Jenks appreciates the opportunity to provide this conceptual workscope for Phase II environmental services. We look forward to working with you on this phase of your project. If you have any questions regarding the workscope, please call us at (714) 261-1577.

Very truly yours,

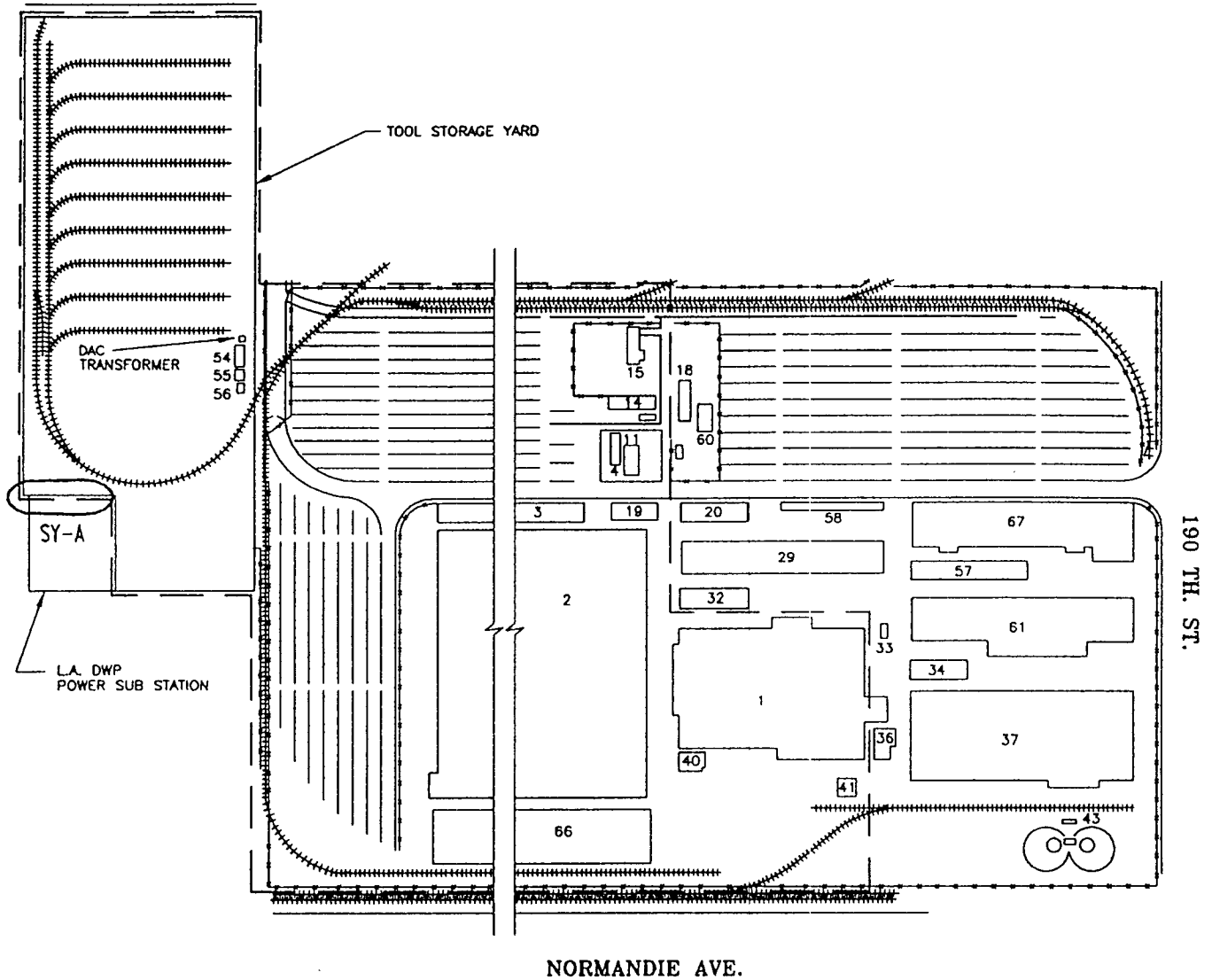
KENNEDY/JENKS CONSULTANTS

A handwritten signature in cursive script that reads "Rus Purcell".

C. Rus Purcell, R.G.
Project Manager
95401901.018

SHB/sp

WESTERN AVE.



LEGEND

- Approximate Subject Property Boundary
- SY-A Sampling Area, Storage Yard, location A.

0 600 900
Approximate Scale: 1"=600'



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C-6 Douglas Aircraft Company Complex
19503 S. Normandie Ave.
Torrance, California

Storage Yard Layout

June 1996
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Figure 2